

SHEET	REV	ECO	DATE	DESCRIPTION	BY	CHK	APR
1-6	A		11/24/97	-2 WAS 1 PC. TUBE, 35.38 WAS 35.00, 30.88 WAS 30.50, 7" WAS 0", 10" WAS 0". -6 PATTERN SIMPLIFIED, -5 PATTERN MOD'D TO IMPROVE FIT	REB	LS	REB
1,3,4	B		03/30/05	ADDED COORDINATE DIMS -3 ASSY, ADDED DETAIL A SH.3	REB	LS	REB
1-3,5,6	C		10/07/08	01/26/07: ADDED VENDOR P/N'S			
				10/18/07: COMPLETED (X,Y,Z) COORDS ALL TUBES, CORRECTED TOTAL LENGTH, & TUBE DIMS WERE RLS TO INSIDE OF BENDS. 10/07/08: ADDED 407AC-5017-1A) APP'L 407 S/N 53755 & UP	REB	LS	REB
1	D		07/20/09	ADDED 5052-0 TO BOM.	REB	LS	REB
ALL		1	05/12/20	ADDED FIRESLEEVE SEALING VIEW, NOTES, FIRESLEEVE TO -1, -1A, -2, AND -3, AND SHEETS 5-11 WITH -4,-4A,-5,-6,-14,-14A, -15,-16,-41,-41A,-51 AND -61 PARTS AND ASSEMBLIES. REMOVED VENDOR P/N FROM SHT.1 PARTS LIST.	DT	LS	ZA
ALL	E		9/21/20	ADDED NEW SHT 10 W/ -15A & -15B TUBES; INCREMENTED PREVIOUS SHT 10 & 11 BY ONE.	ZA	LS	ZA
ALL	F		12/14/21	-15A, -15B TUBES: ADDED TOTAL LENGTH; ADDED ALT. P/N'S FOR HARDWARE	ZA		

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PROTO

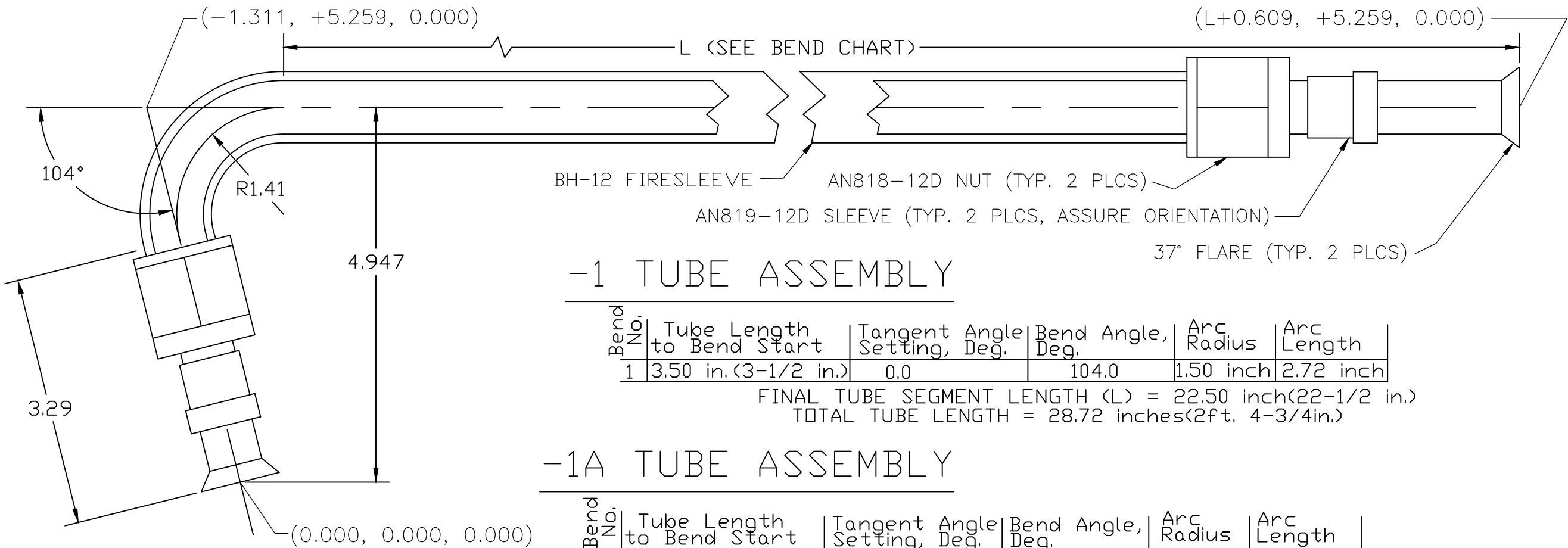
Paravion® Technology Inc.		TITLE TUBE ASSEMBLIES		DRAWING NO. 407AC-5017	
DIMENSIONS IN INCHES		DRAWN BY	APRVD. BY	CHK'D BY	DATE
TOLERANCES EXCEPT WHERE NOTED:		RHSM	REB	LS	05/22/97
.X = ± .1 .XX = ± .05 .XXX = ± .010		DO NOT SCALE DRAWING			REV F
ANGLES = ± 1°		© 2021 PARAVION TECH, INC. PARAVION IS A TRADEMARK OF PARAVION TECHNOLOGY, INC.			ECO SHEET 1 OF 12

MATERIAL: 5052-O WW-T-700/4  
STOCK: 0.75 X 0.035 WALL TUBING  
ALT: 0.75 X 0.049 WALL TUBING  
NOTES

1. SEAL ENDS OF FIRESLEEVE USING PARKER-STRATOFLEX SILICONE END DIP P/N 50217, ALT. EATON-AEROQUIP AE 13702-003, AND FIRESLEEVE TO TUBE WITH DOW-CORNING 736 RTV SEALANT PER THE FIRESLEEVE SEALING CROSS SECTIONAL VIEW
2. ACCEPTABLE ALTERNATES:  
AN818-12D NUT -> MS20818-12D, AS5175D12  
AN819-12D SLEEVE -> MS20819-12D, AS5176D12

BREAK ALL SHARP EDGES

-1A ASSY QTY.	-1 ASSY QTY.	PART NUMBER	DESCRIPTION
20.72 in	28.72 in	BH-12	FIRESLEEVE (FOR 3/4 LINE)
20.72 in	28.72 in	5052-0	TUBE: 3/4 X 0.035W (ALT: 3/4 X 0.049W)
2	2	AN819-12D	SLEEVE
2	2	AN818-12D	NUT



### -1 TUBE ASSEMBLY

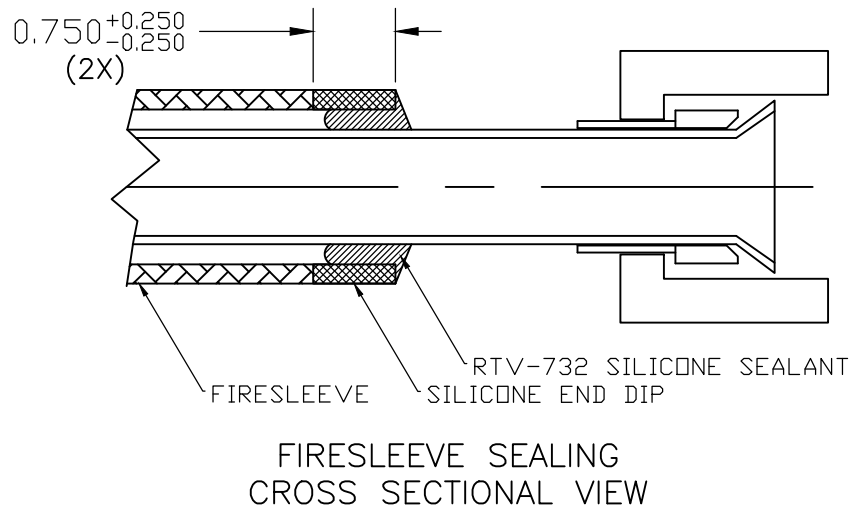
Bend No.	Tube Length to Bend Start	Tangent Angle Setting, Deg.	Bend Angle, Deg.	Arc Radius	Arc Length
1	3.50 in.(3-1/2 in.)	0.0	104.0	1.50 inch	2.72 inch

FINAL TUBE SEGMENT LENGTH (L) = 22.50 inch(22-1/2 in.)  
TOTAL TUBE LENGTH = 28.72 inches(2ft. 4-3/4in.)

### -1A TUBE ASSEMBLY

Bend No.	Tube Length to Bend Start	Tangent Angle Setting, Deg.	Bend Angle, Deg.	Arc Radius	Arc Length
1	3.50 in.(3-1/2 in.)	0.0	104.0	1.50 inch	2.72 inch

FINAL TUBE SEGMENT LENGTH (L) = 14.50 inch(14-1/2 in.)  
TOTAL TUBE LENGTH = 20.72 inches(1ft. 8-3/4in.)



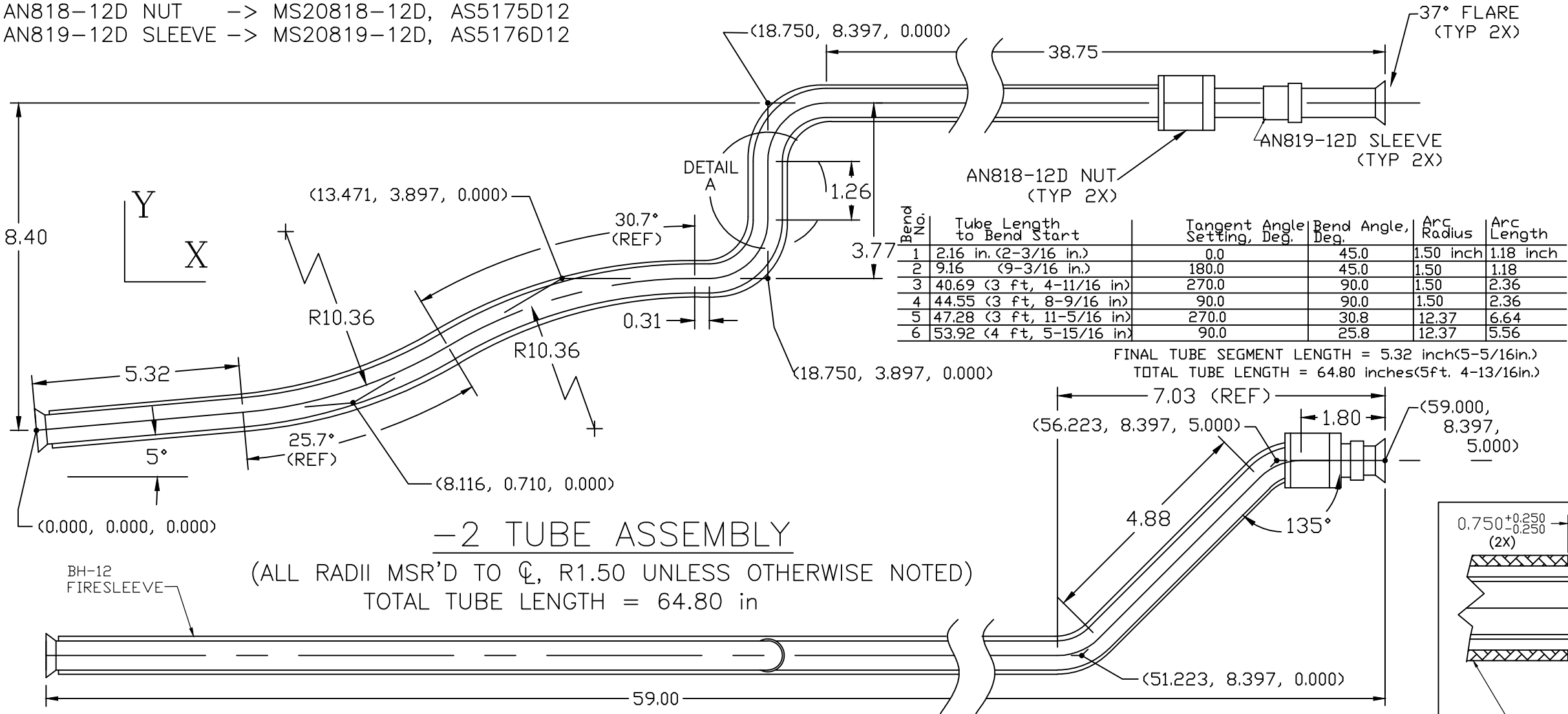
Paravion™ Technology Inc.		TITLE TUBE ASSEMBLIES		DRAWING NO. 407AC-5017	
DIMENSIONS IN INCHES		DRAWN BY	APRVD. BY	CHK'D BY	DATE
TOLERANCES EXCEPT WHERE NOTED:		RHSM	REB	LS	05/22/97
.X = ± .1		DO NOT SCALE DRAWING			REV F
.XX = ± .05		© 2021 PARAVION TECH., INC. PARAVION IS A TRADEMARK OF PARAVION TECHNOLOGY, INC.			ECO
.XXX = ± .010					
ANGLES = ± 1°					SHEET 2 OF 12

MATERIAL: 5052-O WW-T-700/4  
STOCK: 0.75 X 0.035 WALL TUBING  
ALT: 0.75 X 0.049 WALL TUBING  
NOTES

1. SEAL ENDS OF FIRESLEEVE USING PARKER-STRATOFLEX SILICONE END DIP P/N 50217, ALT. EATON-AEROQUIP AE 13702-003, AND FIRESLEEVE TO TUBE WITH DOW-CORNING 736 RTV SEALANT PER THE FIRESLEEVE SEALING CROSS SECTIONAL VIEW
2. ACCEPTABLE ALTERNATES:  
AN818-12D NUT -> MS20818-12D, AS5175D12  
AN819-12D SLEEVE -> MS20819-12D, AS5176D12

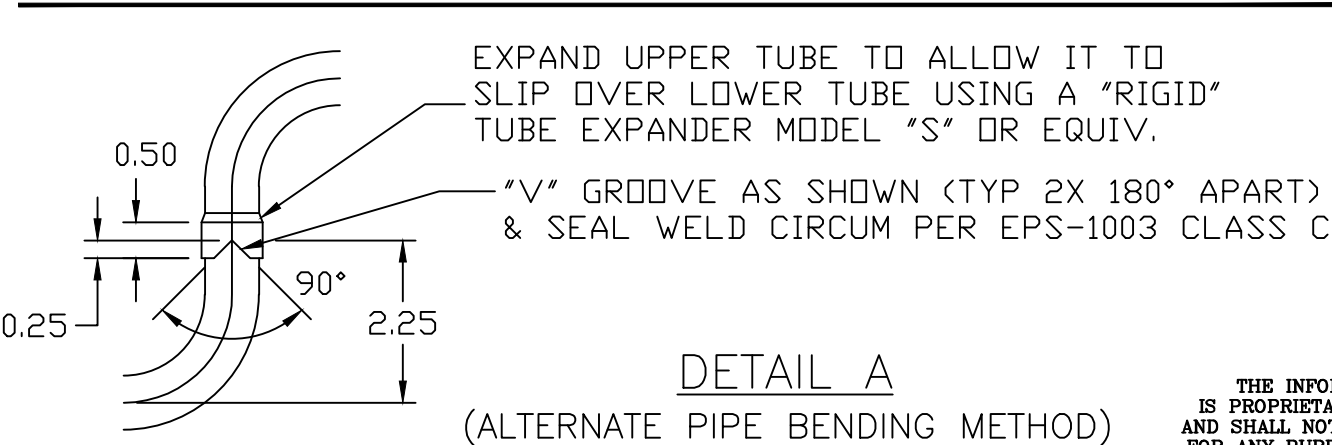
BREAK ALL SHARP EDGES

-2 ASSY QTY.	PART NUMBER	DESCRIPTION
64.80 in	BH-12	FIRESLEEVE (FOR 3/4 LINE)
64.80 in	5052-0	TUBE: 3/4 X 0.035W (ALT: 3/4 X 0.049W)
2	AN819-12D	SLEEVE
2	AN818-12D	NUT



-2 TUBE ASSEMBLY

(ALL RADII MSR'D TO  $\phi$ , R1.50 UNLESS OTHERWISE NOTED)  
TOTAL TUBE LENGTH = 64.80 in



DETAIL A

(ALTERNATE PIPE BENDING METHOD)

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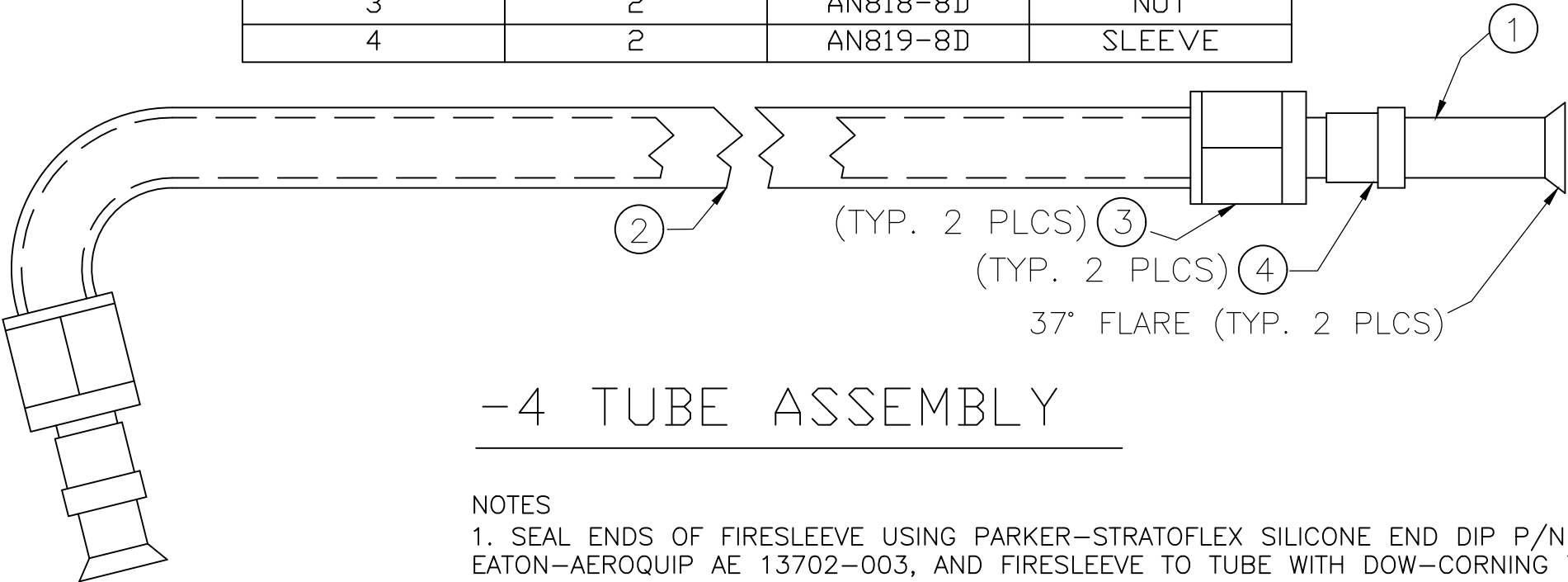
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Paravion® Inc. Technology		TITLE TUBE ASSEMBLIES		DRAWING NO. 407AC-5017	
DIMENSIONS IN INCHES TOLERANCES EXCEPT WHERE NOTED: .X = ± .1 .XX = ± .05 .XXX = ± .010 ANGLES = ± 1° THREADS: INTERNAL=CLASS 2B EXTERNAL=CLASS 2A		DRAWN BY RHSM	APRVD BY REB	CHK'D BY LS	DATE 05/22/97
		DO NOT SCALE DRAWING			REV F
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					SHEET 3 OF 12



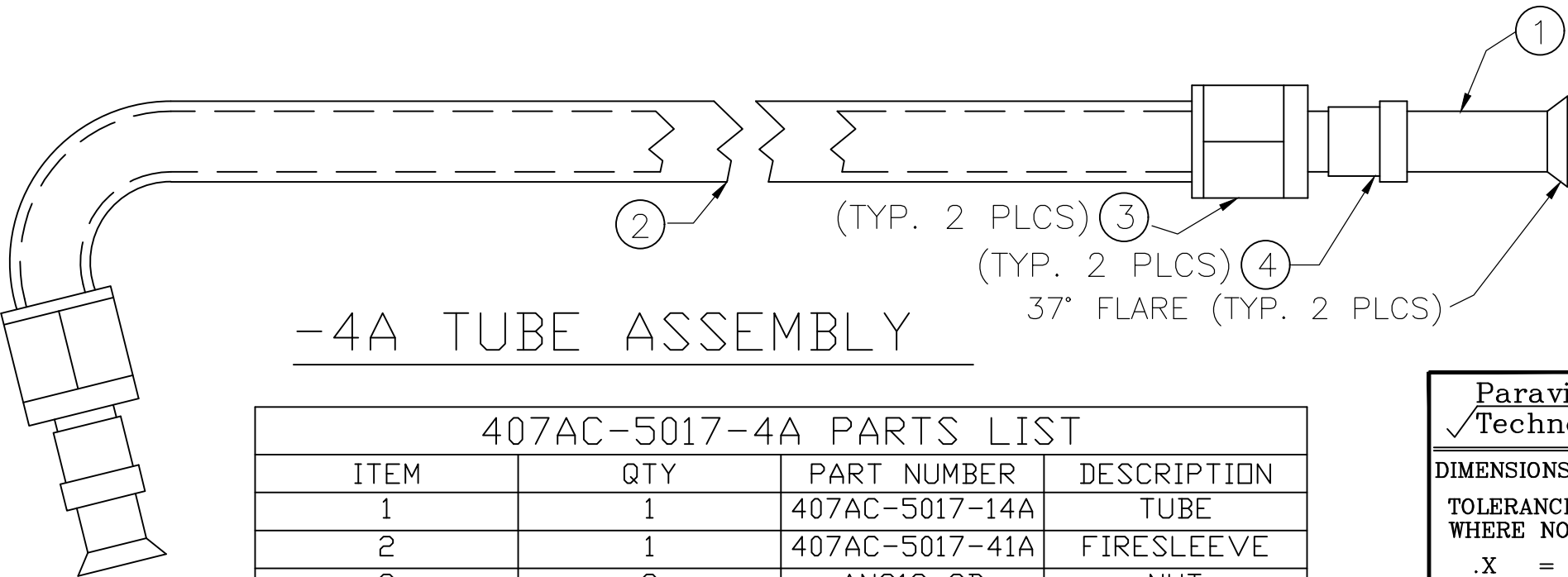
BREAK ALL SHARP EDGES

407AC-5017-4 PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	407AC-5017-14	TUBE
2	1	407AC-5017-41	FIRESLEEVE
3	2	AN818-8D	NUT
4	2	AN819-8D	SLEEVE



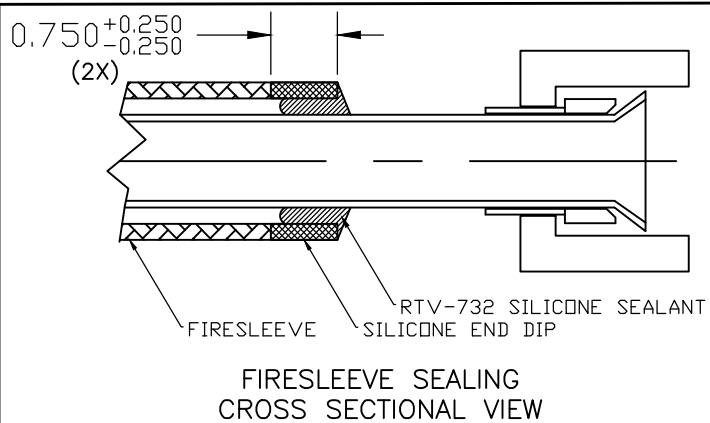
-4 TUBE ASSEMBLY

- NOTES
1. SEAL ENDS OF FIRSLEEVE USING PARKER-STRATOFLEX SILICONE END DIP P/N 50217, ALT. EATON-AEROQUIP AE 13702-003, AND FIRSLEEVE TO TUBE WITH DOW-CORNING 736 RTV SEALANT PER THE FIRSLEEVE SEALING CROSS SECTIONAL VIEW
2. ACCEPTABLE ALTERNATES:  
AN818-8D NUT -> MS20818-8D, AS5175D08  
AN819-8D SLEEVE -> MS20819-8D, AS5176D08



-4A TUBE ASSEMBLY

407AC-5017-4A PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	407AC-5017-14A	TUBE
2	1	407AC-5017-41A	FIRSLEEVE
3	2	AN818-8D	NUT
4	2	AN819-8D	SLEEVE



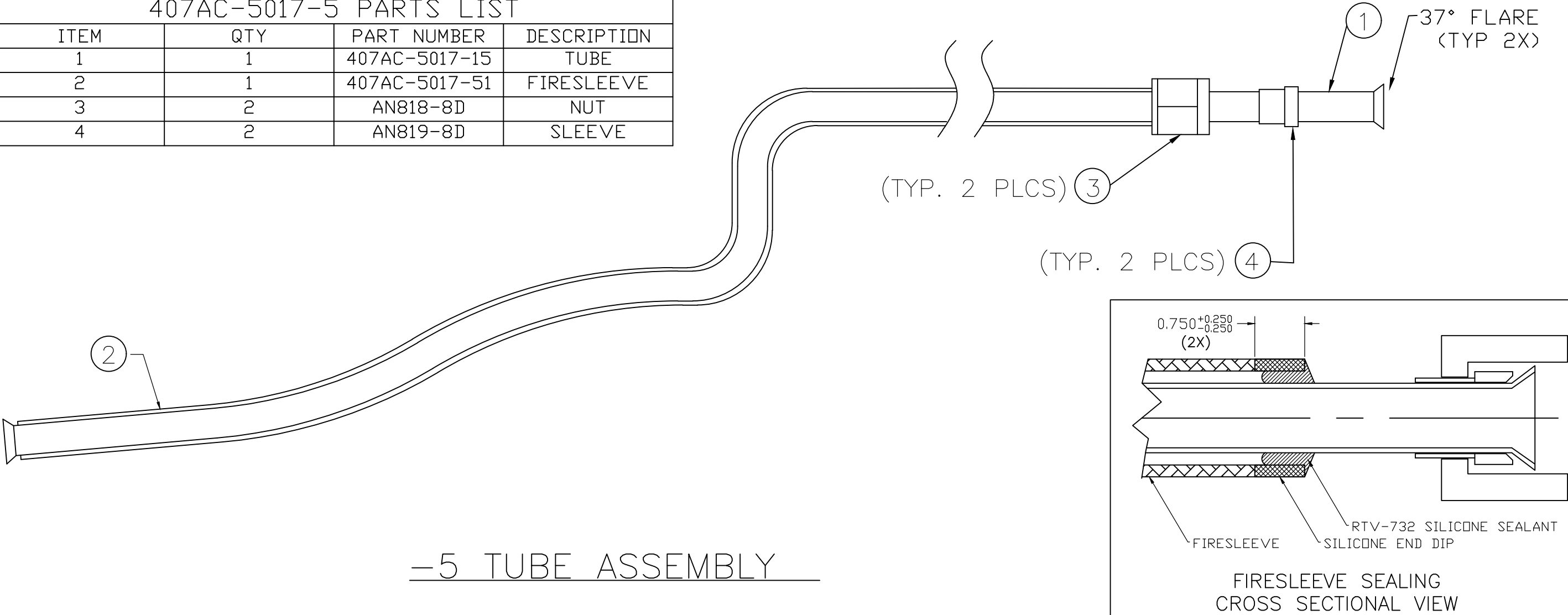
Paravion™ Technology Inc.		TITLE TUBE ASSEMBLIES				DRAWING NO. 407AC-5017	
DIMENSIONS IN INCHES  TOLERANCES EXCEPT WHERE NOTED:  .X = ± .1 .XX = ± .05 .XXX = ± .010  ANGLES = ± 1°		DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV F	ECO
		DT	ZA	LS	05/12/20		
		DO NOT SCALE DRAWING				SHEET  5 OF 12	
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BREAK ALL SHARP EDGES

NOTES

1. SEAL ENDS OF FIRESLEEVE USING PARKER-STRATOFLEX SILICONE END DIP P/N 50217, ALT. EATON-AEROQUIP AE 13702-003, AND FIRESLEEVE TO TUBE WITH DOW-CORNING 736 RTV SEALANT PER THE FIRESLEEVE SEALING CROSS SECTIONAL VIEW
2. ACCEPTABLE ALTERNATES:  
AN818-8D NUT -> MS20818-8D, AS5175D08  
AN819-8D SLEEVE -> MS20819-8D, AS5176D08

407AC-5017-5 PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	407AC-5017-15	TUBE
2	1	407AC-5017-51	FIRESLEEVE
3	2	AN818-8D	NUT
4	2	AN819-8D	SLEEVE



Paravion® ✓Technology Inc.		TITLE			DRAWING NO.		
		TUBE ASSEMBLIES			407AC-5017		
DIMENSIONS IN INCHES							
TOLERANCES EXCEPT WHERE NOTED: .X = ± .1 .XX = ± .05 .XXX = ± .010 ANGLES = ± 1° THREADS: INTERNAL=CLASS 2B EXTERNAL=CLASS 2A		DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV	ECO
		DT	ZA	LS	05/12/20	F	
		DO NOT SCALE DRAWING				SHEET	
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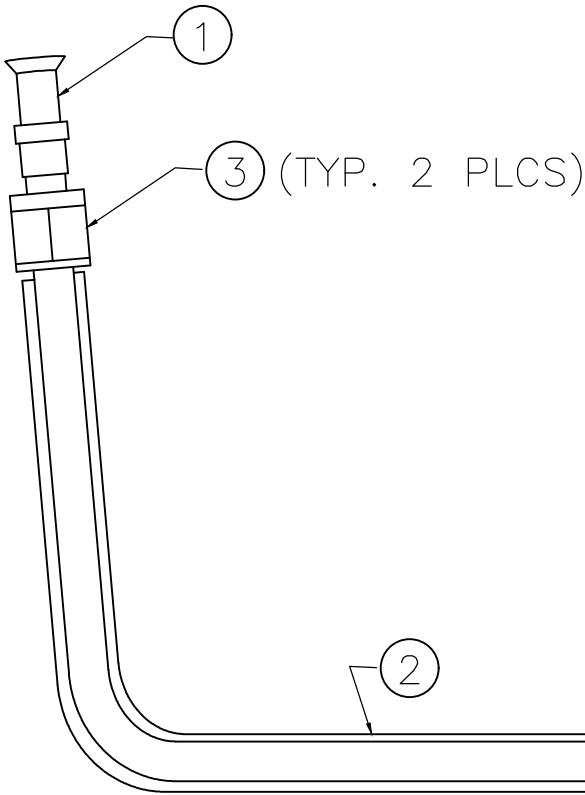
BREAK ALL SHARP EDGES

NOTES

1. SEAL ENDS OF FIRESLEEVE USING PARKER-STRATOFLEX SILICONE END DIP P/N 50217, ALT. EATON-AEROQUIP AE 13702-003, AND FIRESLEEVE TO TUBE WITH DOW-CORNING 736 RTV SEALANT PER THE FIRESLEEVE SEALING CROSS SECTIONAL VIEW
2. ACCEPTABLE ALTERNATES:  
AN818-8D NUT -> MS20818-8D, AS5175D08  
AN819-8D SLEEVE -> MS20819-8D, AS5176D08

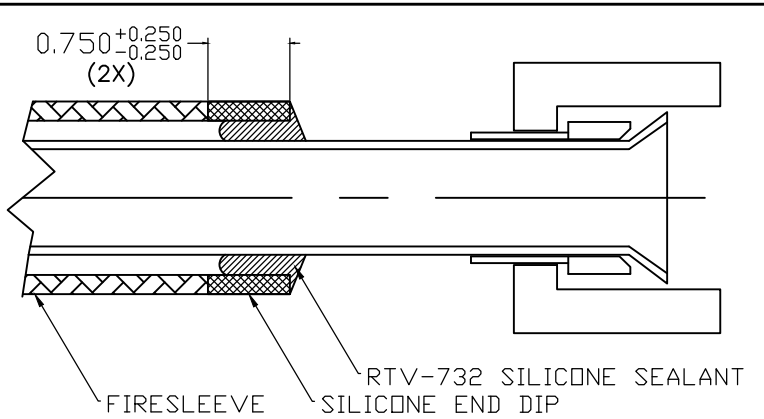
407AC-5017-6 PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	407AC-5017-16	TUBE
2	1	407AC-5017-61	FIRESLEEVE
3	2	AN818-8D	NUT
4	2	AN819-8D	SLEEVE



-6 TUBE ASSEMBLY

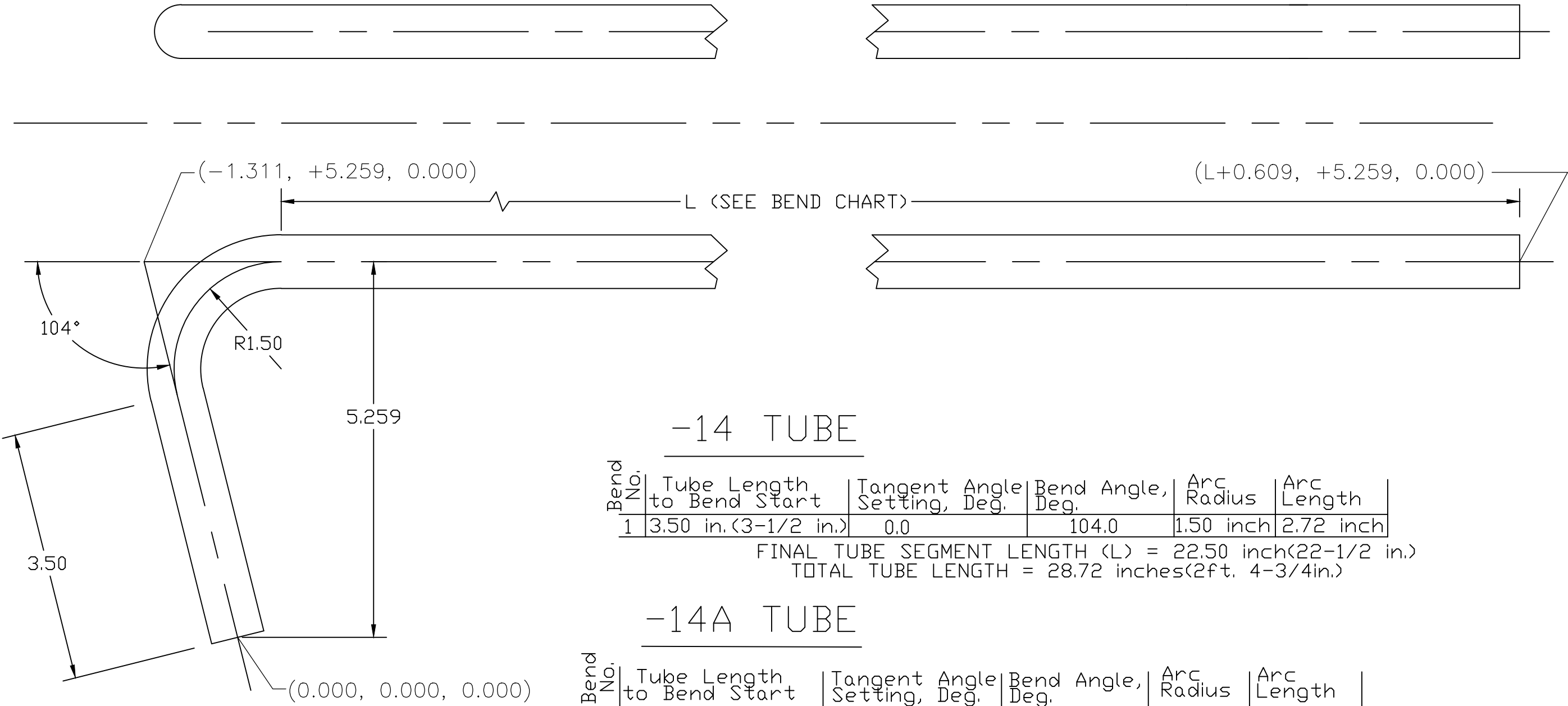
ALL RADII TO BE R1.50 UNLESS OTHERWISE NOTED



FIRESLEEVE SEALING  
CROSS SECTIONAL VIEW

Paravion® Technology Inc.	TITLE TUBE ASSEMBLIES			DRAWING NO. 407AC-5017		
	DIMENSIONS IN INCHES					
TOLERANCES EXCEPT WHERE NOTED:  .X        = ± .1 .XX      = ± .05 .XXX    = ± .010  ANGLES = ± 1°	DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV	ECO
	DT	ZA	LS	05/12/20	F	
	ECO					
	DO NOT SCALE DRAWING				SHEET	
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MATERIAL: 5052-O WW-T-700/4  
STOCK: 0.50 X 0.035 WALL TUBING



<div>Paravion<sup>TM</sup> Technology Inc.</div> <div>DIMENSIONS IN INCHES</div> <div>TOLERANCES EXCEPT WHERE NOTED:</div> <div>.X = ± .1</div> <div>.XX = ± .05</div> <div>.XXX = ± .010</div> <div>ANGLES = ± 1°</div>	TITLE			DRAWING NO.		
	TUBE ASSEMBLIES			407AC-5017		
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	DT	ZA	LS	05/12/20	F	
	DO NOT SCALE DRAWING				SHEET	

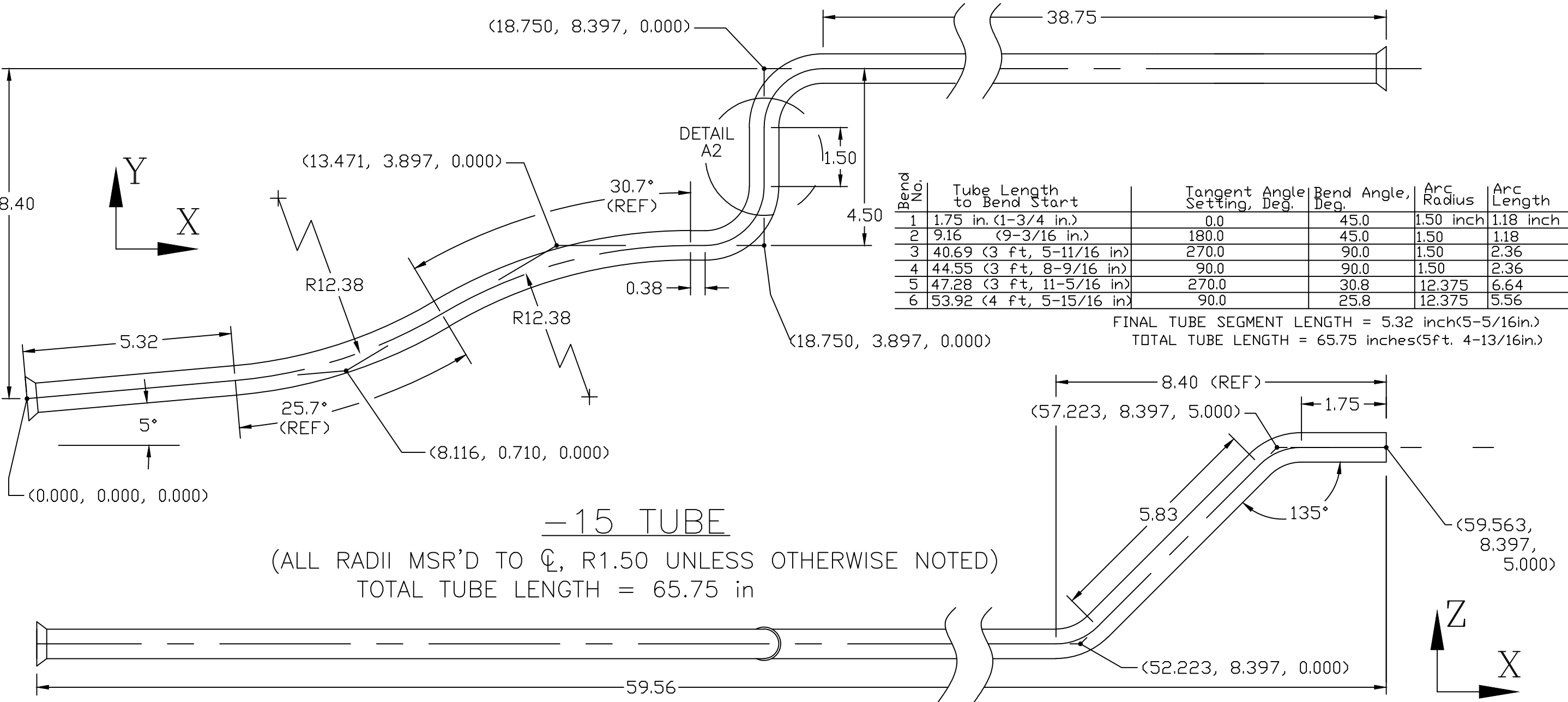
BREAK ALL SHARP EDGES

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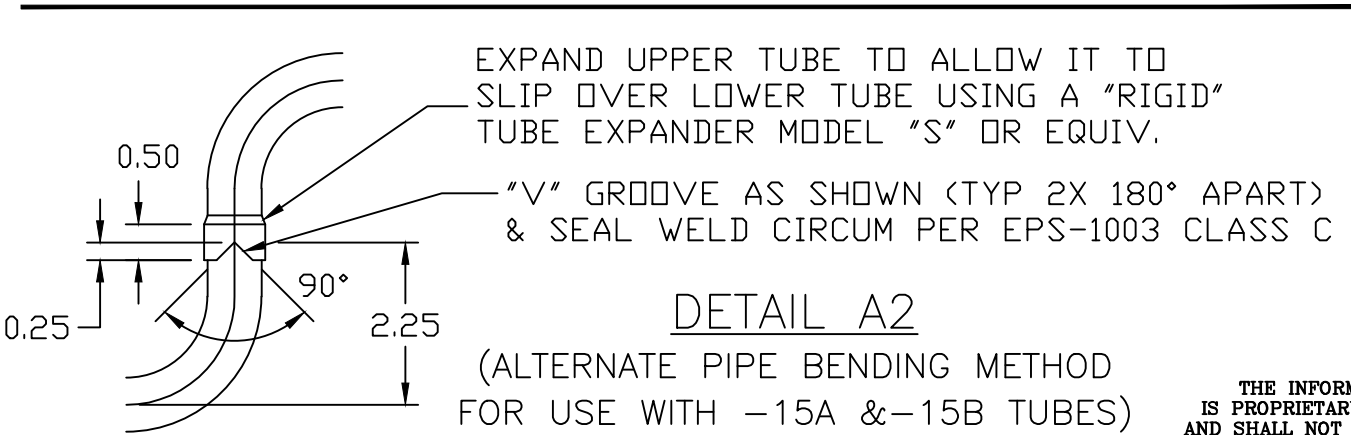


MATERIAL: 5052-O WW-T-700/4  
STOCK: 0.50 X 0.035 WALL TUBING

BREAK ALL SHARP EDGES



-15 TUBE  
(ALL RADII MSR'D TO  $\varnothing$ , R1.50 UNLESS OTHERWISE NOTED)  
TOTAL TUBE LENGTH = 65.75 in

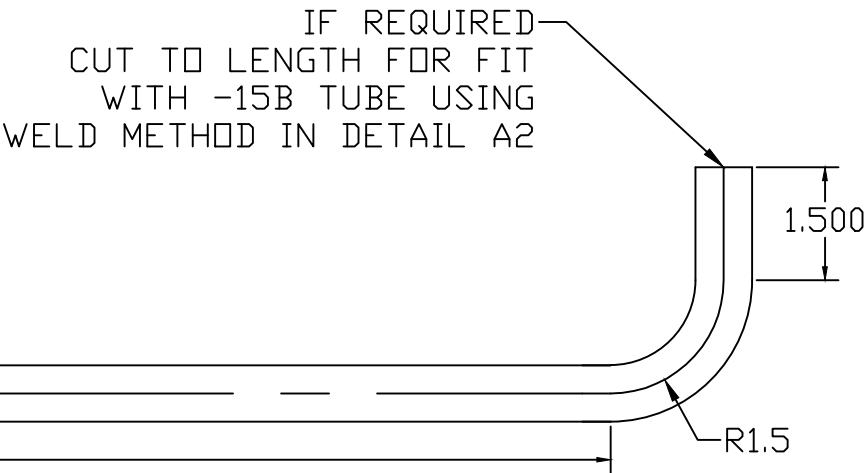


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PROTO  
N/C

Paravion® Inc. Technology		TITLE TUBE ASSEMBLIES		DRAWING NO. 407AC-5017		
DIMENSIONS IN INCHES TOLERANCES EXCEPT WHERE NOTED: .X = ± .1 .XX = ± .05 .XXX = ± .010 ANGLES = ± 1° THREADS: INTERNAL=CLASS 2B EXTERNAL=CLASS 2A		DRAWN BY DT	APRVD. BY ZA	CHK'D BY LS	DATE 05/12/20	REV F
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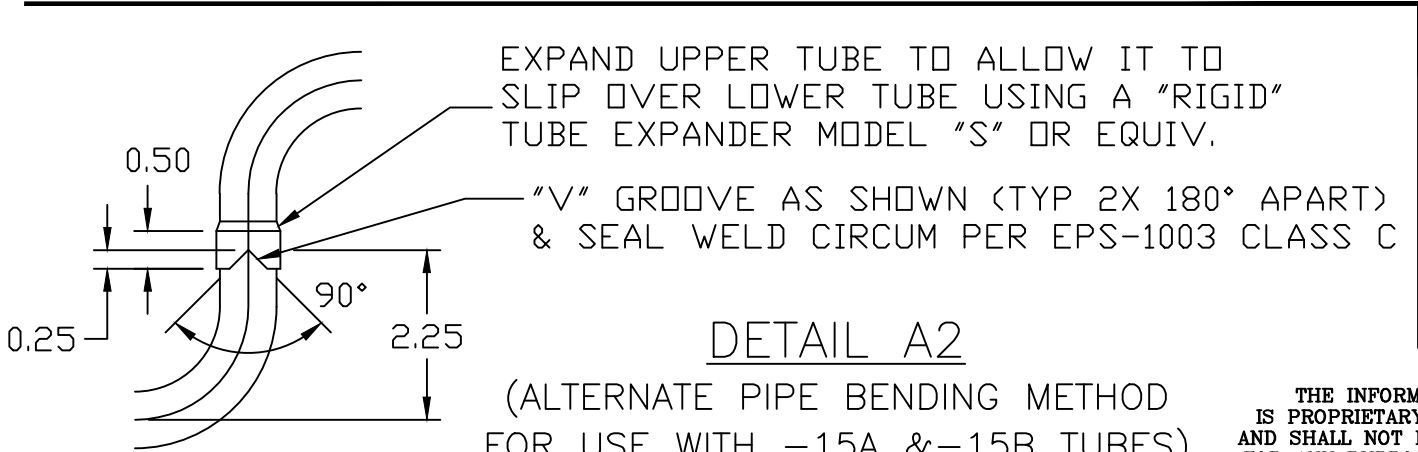
RELEASE DATE 2023 04/11 - REF ECR 504  
MATERIAL: 304 SS 1/2" O.D. W.T. 100, 14  
STOCK: 0.50 X 0.035 WALL TUBING



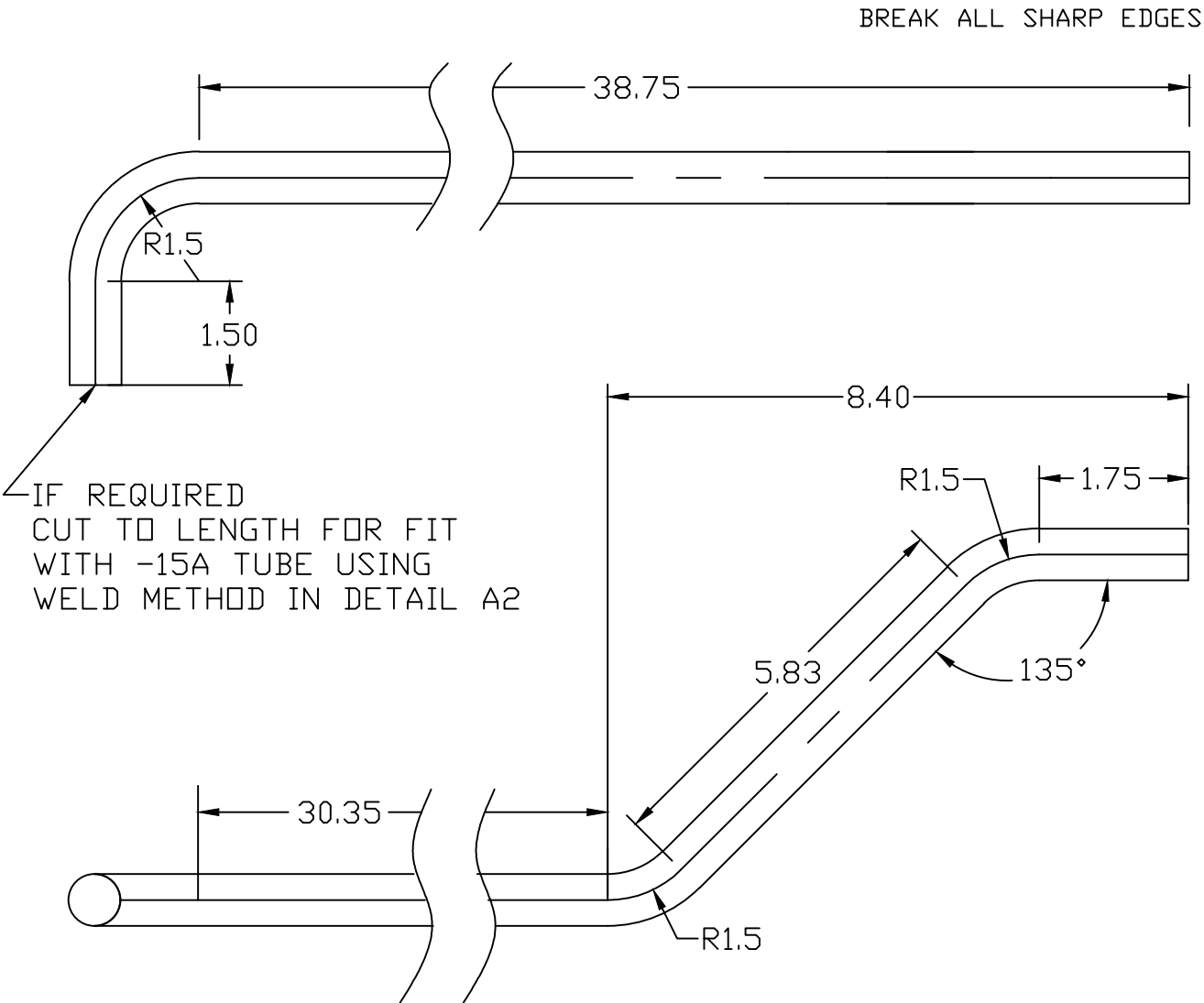
Bend No.	Bend to Bend Length	Tangent Angle Deg.	Bend Angle, Deg.	Arc Radius	Arc Length
1	17.898	0.0	90.0	1.50 inch	1.18 inch

FINAL TUBE SEGMENT LENGTH = 1.50 inch  
TOTAL TUBE LENGTH = 21.756 inch

-15A TUBE



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Bend No.	Bend to Bend Length	Tangent Angle Deg.	Bend Angle, Deg.	Arc Radius	Arc Length
1	1.75	0.0	45.0	1.50 inch	1.18 inch
2	5.83	180.0	45.0	1.50	1.18
3	30.35	270.0	90.0	1.50	2.36

FINAL TUBE SEGMENT LENGTH = 1.50 inch  
TOTAL TUBE LENGTH = 44.142 inch

-15B TUBE

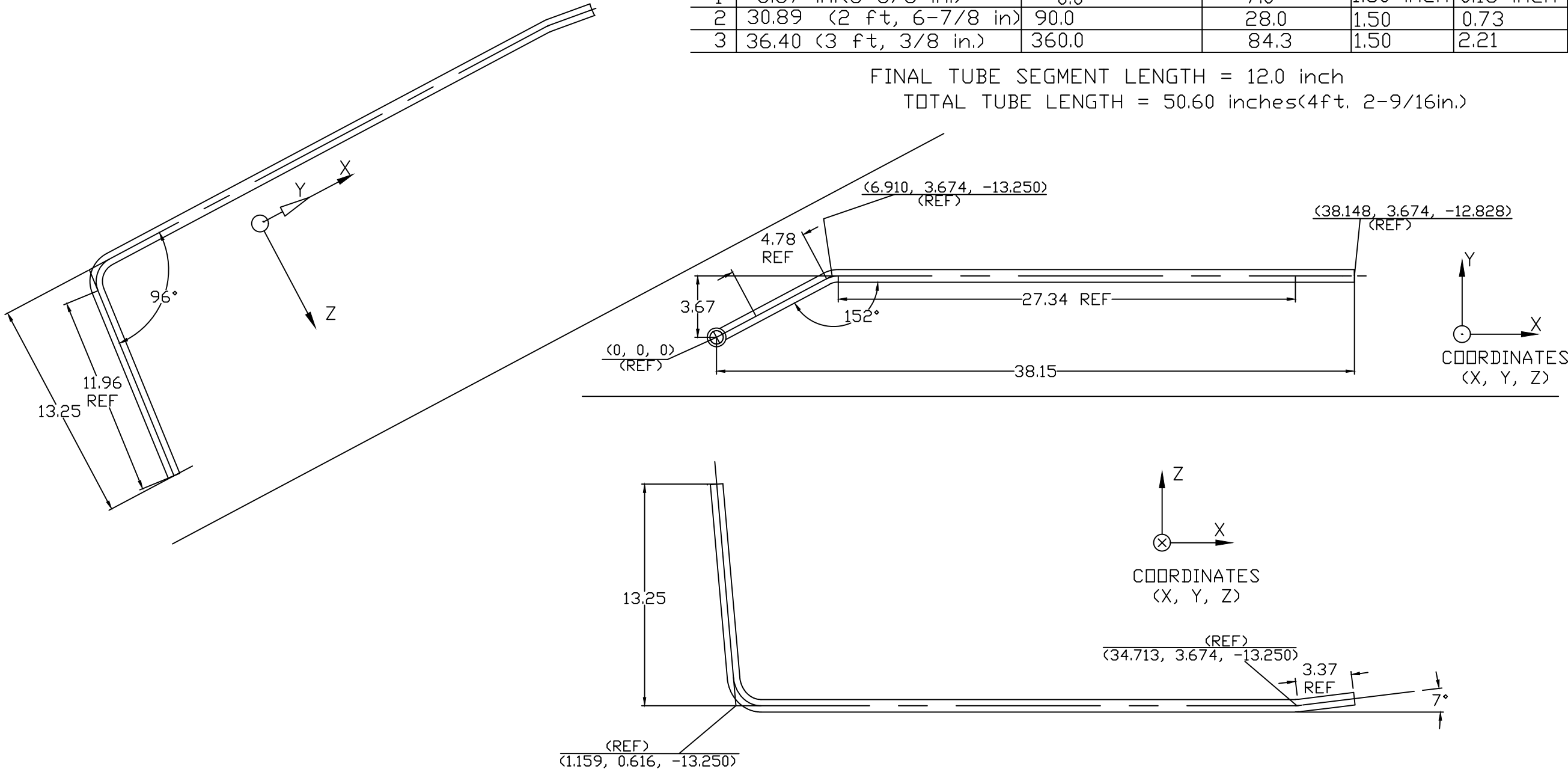
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Paravion® Inc. Technology		TITLE		DRAWING NO.	
TUBE ASSEMBLIES		407AC-5017			
DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV	ECO
ZA	ZA	LS	9/21/20	F	
DO NOT SCALE DRAWING				SHEET	
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MATERIAL: 5052-O WW-T-700/4  
STOCK: 0.50 X 0.035 WALL TUBING

Bend No.	Tube Length to Bend Start	Tangent Angle Setting, Deg.	Bend Angle, Deg.	Arc Radius	Arc Length
1	3.37 in.(3-3/8 in.)	0.0	7.0	1.50 inch	0.18 inch
2	30.89 (2 ft, 6-7/8 in.)	90.0	28.0	1.50	0.73
3	36.40 (3 ft, 3/8 in.)	360.0	84.3	1.50	2.21

FINAL TUBE SEGMENT LENGTH = 12.0 inch  
TOTAL TUBE LENGTH = 50.60 inches(4ft. 2-9/16in.)



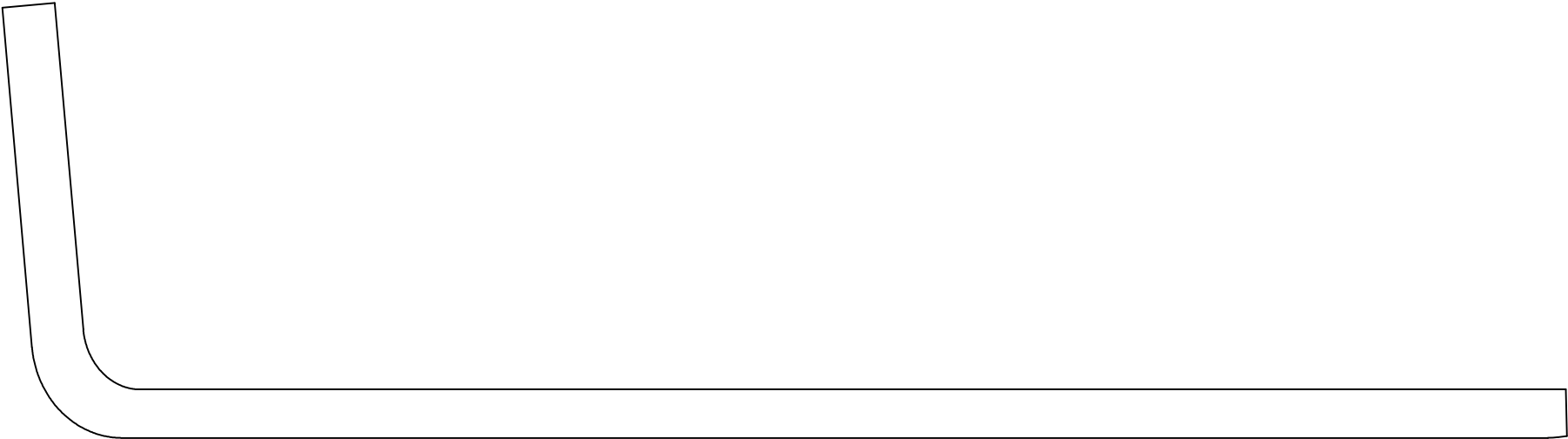
-16 TUBE  
ALL RADII TO BE R1.50 UNLESS OTHERWISE NOTED

BREAK ALL SHARP EDGES

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<div>DIMENSIONS IN INCHES</div> <div>TOLERANCES EXCEPT WHERE NOTED:</div> <div><div>.X = ± .1</div><div>.XX = ± .05</div><div>.XXX = ± .010</div></div> <div>ANGLES = ± 1°</div>		DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV	ECO
		DT	ZA	LS	05/12/20	F	
		ECO					
		DO NOT SCALE DRAWING				SHEET	
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MATERIAL: FIRESLEEVE BH-9

FIRESLEEVE LENGTHS				
FIRESLEEVE:	-41	-41A	-51	-61
LENGTH (IN)	28.72	24.72	65.75	50.60



-41, -41A, -51, -61 FIRESLEEVES  
(-61 PICTURED)

Paravion® ✓Technology Inc.		TITLE TUBE ASSEMBLIES			DRAWING NO. 407AC-5017		
DIMENSIONS IN INCHES  TOLERANCES EXCEPT WHERE NOTED:  .X = ± .1 .XX = ± .05 .XXX = ± .010  ANGLES = ± 1°		DRAWN BY	APRVD. BY	CHK'D BY	DATE	REV	ECO
		DT	ZA	LS	05/12/20	F	
		ECO					
		DO NOT SCALE DRAWING				SHEET	
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